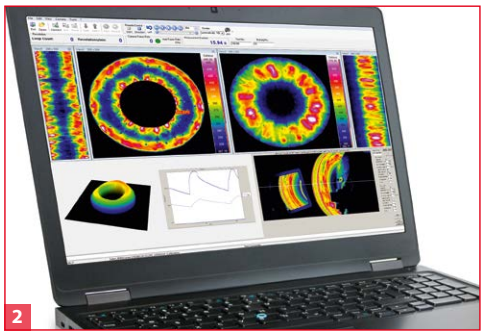
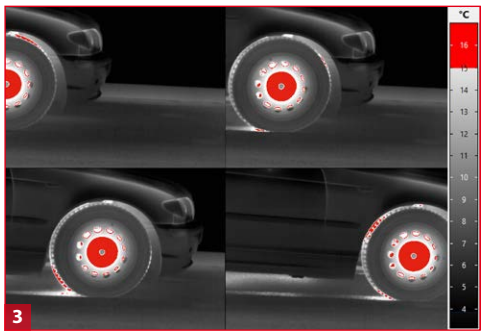
ImageIR® 5300

High-speed Thermography Camera

1


2



3

1) ImageIR® 5300
2) Software IRBIS® 3 rotate for rotation test bench
3) Heat development during the ABS brake process

InfraTec.

Europe's leading specialist for infrared sensors and measurement technology

Cooled FPA photon detector with (320 × 256) IR pixels
Full-frame rate up to 450 Hz, GigE Vision compatible
IR frame rate in line scan mode up to 12,690 Hz
Snapshot detector, internal trigger interface
Extremely short integration times in the microsecond range
Thermal resolution up to 0.015 K

www.InfraTec.eu
www.InfraTec-infrared.com

Made in Germany

Latest information on the internet.

Spectral range	(2.0 … 5.7) µm
Pitch	30 µm
Detector	MCT or InSb
Detector format (IR pixels)	(320 × 256)
Image aquisition	Snapshot
Readout mode	ITR
Aperture ratio	f/3.0 or f/2.0
Detector cooling	Stirling cooler
Temperature measuring range	(-40 … 1,500) °C, up to 3,000 °C*
Measurement accuracy	± 1 °C or ± 1%
Temperature resolution @ 30 °C	Up to 0.015 K
Frame rate (full / half / quarter / sub frame / line scan mode)*	Up to 450 / 1,500 / 4,500 / 25,000 Hz / 12,690 Hz
Window mode	Yes
Focus	Manual, motorised or automatically*
Dynamic range	Up to 16 bit*
Integration time	(1 … 20,000) µs
Rotating filter wheel*	Up to 5 positions
Rotating aperture wheel*	Up to 5 positions
Interfaces	GigE, CAMLink*, HDMI*
Trigger	3 IN / 2 OUT, TTL
Analogue signals*, IRIG-B*	1 IN, no
Tripod adapter	1/4" and 3/8" photo thread, 2 × M5
Power supply	24 V DC, wide-range power supply (100 … 240) V AC
Storage and operation temperature	(-40 … 70) °C, (-20 … 50) °C
Protection degree	IP54, IEC 60529
Dimensions, weight	(244 × 120 × 160) mm*, 3.3 kg (without lens)
Further functions	High-speed mode*, Multi Integration Time*
Analysis and evaluation software	IRBIS® 3, IRBIS® 3 view, IRBIS® 3 rotate, IRBIS® 3 plus*, IRBIS® 3 professional*, IRBIS® 3 control*, IRBIS® 3 online*, IRBIS® 3 process*, IRBIS® 3 active*, IRBIS® 3 mosaic*, IRBIS® 3 vision*

* Depending on model

The **ImageIR® 5300** has been designed specifically for **capturing and recording extremely fast running thermal processes.** The MWIR focal-plane array photon detector in **the format of (320 × 256) IR pixels** allows users to capture thermal images in full frame **at frequencies up to 450 Hz. When using the line scan mode, the value even increases to 12,690 Hz.**

The ImageIR® 5300 demonstrates the strength of its design as an **integral part of the automated IR rotation test bench solution Thermal Rotate Check (TRC)** from InfraTec. This allows rapidly rotating components, such as tyres, brakes and clutches, to be analysed precisely. The results provide information on how well the test objects withstand continuous operation, which signs of wear are present and how serious they are.

The potential of the camera goes far beyond such applications in automotive and rail technology. Thanks to its extensive single pixels (detector pitch 30 µm) the ImageIR® 5300 achieves an outstanding **thermal resolution up to 0.015 K. Modularly designed** with an optics, detector and interface module and equipped with an **integrated trigger interface,** the camera proves itself to be a versatile measuring and testing instrument for application in industry and science.

Lenses	Focal length (mm)	FOV (°)	IFOV (mrad)
Wide-angle lens	12	(43.6 × 35.5)	2.5
Standard lens	25	(21.7 × 17.5)	1.2
Telephoto lens	50	(11.0 × 8.8)	0.6
Telephoto lens	100	(5.5 × 4.4)	0.3
Telephoto lens	200	(2.7 × 2.2)	0.15

Macro and microscopic lenses	Object distance (mm)	Object size (mm)	Pixel size (µm)
Close-up for telephoto lens 50 mm	300	(58 × 46)	180
Close-up for telephoto lens 100 mm	500	(48 × 38)	150
Microscopic lens M=1.0×	195	(9.6 × 7.7)	30
Microscopic lens M=1.0×	300	(9.6 × 7.7)	30
Microscopic lens M=3.0×	22	(3.2 × 2.6)	10

Headquarters
InfraTec GmbH
Infrarotsensorik und Messtechnik
Gostritzer Str. 61 – 63
01217 Dresden / GERMANY
Phone +49 351 871-8630
Fax +49 351 871-8727
E-mail thermo@InfraTec.de

USA office
InfraTec infrared LLC
5048 Tennyson Pkwy.
Plano TX 75024 / USA
Phone +1 844-226-3722 (toll free)
E-mail thermo@InfraTec-infrared.com